



Perinatal Care Matters

A Publication of the Regional Perinatal Programs of California Winter, 2004

RISE IN INFANT MORTALITY LINKED TO BABIES BORN AT LOWER BIRTH WEIGHTS

REGION 1

North Coast Perinatal
Access System
415/ 478-3868

REGION 2

Northern California
Perinatal Outreach Program
916/ 733-1750

REGION 3

East Bay Regional Perinatal
Program
510/ 204-3937

REGION 4

Mid-Coastal California
Perinatal Outreach Program
650/ 723-5763

REGION 5

San Joaquin/ Sierra
Regional Perinatal Program
559/ 221-6315

REGION 6.1

Perinatal Outreach
Education Program
562/ 595-6459

REGION 6.2

South Bay Perinatal Access
Project
310/ 222-3651

REGION 6.3-6.6

PAC/LAC
818/ 788-6850

REGION 6.7

Community Perinatal Network
562/ 464-0042

REGION 7

Inland Counties
Regional Perinatal Program
909/ 558-3970

REGION 8

Orange County
Regional Perinatal Program
714/ 456-6706

REGION 9

San Diego/ Imperial Counties
Regional Perinatal System
858/ 536-5090

REGION 10

Kaiser Permanente Regional
Perinatal Program North
510/ 625-6879

REGION 11

Kaiser Permanente Regional
Perinatal Program South
626/ 405-6052

After decades of annual improvement in infant mortality (infants dying in the first year of life), an increase in infant mortality, from 6.8 infant deaths per 1,000 live births in 2001 to 7.0 in 2002, was the first increase in the rate since 1958 according to a report from the Centers for Disease Control and Prevention (CDC). Overall, there were 27,970 infant deaths in 2002 compared to 27,568 infant deaths in 2001. The increase in the birth of very small infants is the major reason behind the increase in U.S. infant mortality in 2002, according to a report released today by the CDC. It is vital to understand the role VLBW infants play in the increasing rate of infant mortality if efforts to improve are to be successful.

Extremely Low Birth Weight Infants

The number of extremely small babies (weighing less than 1 lb, 10.5 oz or 750 grams at birth) increased by almost 500 births from 2001 to 2002. The increase occurred primarily among mothers in the peak childbearing ages of 20-34 years and occurred across most racial and ethnic groups. Multiple births may also contribute to the increase in low birth weight infants. About 3 percent of births in the United States were multiple births, yet they made up about 25 percent of the overall increase in infant mortality.

CDC Birth and Death Cohort Files

The data from CDC's 2002 Linked Birth/Infant Death Data Set enables researchers to examine factors, in addition to birth weight, that may have contributed to infant mortality. The report looks at patterns by race/ethnicity, mother's age, length of pregnancy, multiple versus single birth, and other factors. Researchers at CDC's National Center for Health Statistics also evaluated changes in the reporting of births, infant deaths and fetal deaths; the extent of mother's medical risk factors; and aspects of medical practice that are documented on the birth certificate as possibly contributing to the increase in the very low birth weight infants. Each of these factors, as well as others, may also have contributed to the increase. For example, the report documents a slight increase between 2001 and 2002 in rates of maternal anemia, diabetes and chronic high blood pressure; however, these conditions remain relatively rare.

Also potentially important are recent changes in the medical management of pregnancy. In 2002, 57% of very low birth weight infants were delivered by Caesarean, up 3 percent from 2001. Substantial changes in technology have occurred over the past decade, including improvements in fetal imaging and diagnosis. More intensive monitoring of at-risk pregnancies may have resulted in an increased likelihood that a Caesarean delivery will take place and a low birth weight baby will be born.

Detailed findings from this research are published in "Explaining the 2001-2002 Infant Mortality Increase: Data from the Linked Birth/Infant Death Data Set," and available on the CDC website at <http://www.cdc.gov/nchs>

EVERY DAY IN THE UNITED STATES...

- ◆ 11,121 babies are born;
- ◆ 214 of these babies are born weighing less than 3 pounds, 4 ounces (1,500 grams) (Very Low Birthweight) and have 105 times the risk of dying in their first year of life as a child born of average weight;
- ◆ An additional 837 babies are born weighing between 3 pounds, 4 ounces and 5 pounds, 9 ounces (2,500 grams) (Low Birthweight). They are 25 times more likely to die in the first year of life as a child born of average birth weight;
- ◆ Nearly 60% of all premature babies are born at 35 or 36 weeks gestation. These babies may be of normal birth weight but they have significant risk of becoming sick and requiring neonatal intensive care;
- ◆ 1,101 babies are born weighing more than 8 pounds, 14 ounces (macrosomia). In fact approximately 15% of these babies will weigh more than 11 pounds, doubling their risk of infant mortality; and
- ◆ 1 in 8 of these babies will have been born in California!

Source: NCHS, Preliminary Natality Data, 2003

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Services, Maternal, Child and Adolescent
Health Branch*

LABOR AFTER PRIOR CESAREAN DELIVERY RISK LOW

The risks from vaginal delivery after a prior Cesarean delivery are low, but slightly higher than for a repeat Cesarean delivery. This finding is from the National Institute of Child Health and Human Development (NICHD). The complications seen in women who attempted a vaginal birth after prior Cesarean delivery (VBAC) were rupture of the uterus, infection of the uterine lining, lack of oxygen to the infant brain, and infant death, although these risks are very low.

Cesarean Delivery

Reasons for Cesarean delivery include failure of labor to proceed normally, fetal heart rate abnormalities and complications involving the placenta. Cesarean delivery is a major surgical procedure; it carries the risks posed by all surgery, such as infection or anesthetic complications. A Cesarean delivery may also complicate future births.

Repeat Cesarean delivery may carry risks beyond those posed by VBAC delivery. The risk for infection and other surgical complications appear to be greater in women undergoing repeat cesarean delivery compared to those who are successful with a VBAC. Moreover, having a repeat cesarean delivery may complicate future pregnancies, sometimes causing the placenta to implant improperly including growth over the cervix or into the uterine wall, leading to difficulty with delivery or removal of the placenta after the birth. This may result in heavy bleeding and /or hysterectomy.

VBAC Delivery

Uterine rupture is the most well known complication of attempted VBAC. Uterine rupture occurs when the scar in the uterine muscle opens. The rupture may result in part or all of the baby and perhaps the placenta leaving the uterine environment, which may cause fetal heart rate abnormalities, fetal death, and excessive bleeding, which can endanger the lives of both baby and mother. In some cases, the bleeding may be so severe that a hysterectomy must be performed to prevent maternal death.

The decision of whether to attempt a vaginal delivery or to have a repeat Cesarean must be made carefully by women and their physicians. They must take into account, on the one hand, the risk of uterine rupture and its attendant complications, and balance these factors against the risk of surgical complications and the chances that repeat Cesarean delivery might complicate future pregnancies.

Of the women who attempted a vaginal birth after cesarean delivery, only 0.7%, experienced a rupture of the uterus. The study found that using drugs to induce or speed up labor may also increase the chances for uterine rupture. Such drugs increase the force and duration of uterine contractions. Of the 1864 women given the drug oxytocin alone, without any other drugs to induce labor, 1.1% had a uterine rupture. None of the women receiving prostaglandins alone experienced uterine rupture, however it is possible that the study sample did not include a sufficient number of women to determine a small increase in uterine rupture from prostaglandins alone.

Among the infants born to the women who attempted vaginal birth after a Cesarean, 0.08% were diagnosed with hypoxic ischemic encephalopathy, a condition that may result from lack of oxygen to the baby's brain. The lack of oxygen may be caused by heavy maternal bleeding, detachment of the placenta, or other complications. Of these deliveries, 58% were associated with a uterine rupture and 17% of the infants died. In contrast, none of the infants whose mothers had an elective cesarean delivery developed hypoxic ischemic encephalopathy. Among the women who attempted vaginal birth, the overall risk for either neonatal brain injury or death at term from uterine rupture was roughly 1 in 2000 trials of labor. Women who attempted VBAC were more likely to develop infection of the uterine lining, 2.9 % as compared to women who had an elective repeat Cesarean delivery 1.8 %. The study authors found no significant difference between the percentage of women who required a hysterectomy: 0.2 % in the labor group and 0.3 % in the C-section group, or in the maternal death rate (0.02% vs 0.04%).

For more information please see the full article in the Dec. 16, 2004 NEJM, or visit the NICHD Information Resource Center at <<http://www.nichd.nih.gov>>

BIRTH CERTIFICATES MATTER

The California Domestic Partner Rights and Responsibilities Act of 2003 became effective January 1, 2005. This law extends most rights and duties of marriage granted under state law to persons registered as domestic partners on or after January 1, 2005. This includes the right to be listed as a parent on the birth certificate after that date. These regulations apply to partners who are members of the same sex or of the opposite sex when one or both are over 62 years of age **and** they have registered with the Secretary of State.

When collecting information for the birth certificate either by interview or questionnaire, the mother is asked if she is married. If the mother states she is not married, further questioning is indicated. Ask: "Should a second parent be listed on the birth certificate, either because the father has signed a valid POP (Paternity Opportunity Program) form, or because you have a state-registered domestic partner?" If the mother indicates she has a registered domestic parent, that person's information is included in line 6, "Father of the Child". In the confidential portion of the birth certificate items 18-23 the personal information for the genetic parents can be listed if it is known and acceptable to the parents. As with all families proof of registration (or marriage) is not required.

For more information see Office of Vital Records ACL: 04-14 of 12/21/04 and update issued 1/7/05 or contact your OVR Policy / County Analyst.

Birth Certificates Matter will become a recurring column in future editions of this newsletter. Please contact your RPPC Director with any topics you would like to see addressed.

USE OF MULTIDISCIPLINARY TEAMS & HUMAN FACTORS IMPROVE PERCEPTION OF TEAMWORK & SAFETY CLIMATE

Human Error and High Reliability Unit Concepts

Birth Injury is now recognized as a rare but serious problem in obstetrical care. Communication; team culture; shift reports, sign outs and hand-offs; lack of information; and supervision issues were identified as recurring organizational system problems involved in birth injuries by Eric Knox MD, et al. in data analysis of 250 hospitals over 10 years. Dr. Knox has brought High Reliability Theory from the engineering realm to health care, specifically to perinatal care. He described characteristics that perinatal units with low error rates have in common that can be attributed to improved patient safety.

Within Kaiser Permanente – Northern California Region, the Perinatal Patient Safety Project (PPSP) human factors techniques (use of briefings, assertion and situational awareness as well as drills for emergencies) have been identified as effective methods for creating a culture of safety and reducing and/or trapping errors. Adoption of high reliability unit characteristics and implementation of human factor techniques have improved teamwork, communication and safety climate. Teams meeting regularly and frequently in a protected and “just culture” environment examine events and process to enhance safety at Kaiser facilities.

Project Status

This is a four year pilot project funded by a Garfield Grant to improve perinatal performance reliability by reducing birth injuries caused by human error and systemic problems and by creating a culture of safety. Four Northern California Medical Centers were pilot sites in 2003. At each site, a PPSP Team identified actions to be taken and a Steering Committee, which provided local oversight, was also created. Teams included representatives from the entire continuum of care.

Highlights of Initiatives Through October 2003

Human Factors/Systems Improvements: a common algorithm and definition for Fetal Well-Being, SBAR implementation (communication style “Situation, Background, Assessment, and Recommendation”), multidisciplinary rounds, escalation policy, multidisciplinary FHT education, emergency C section tray, 2 RNs at each delivery policy, scheduling induction by Bishop’s Score, Census Management Guidelines, standardized color coded labeling of common IV medications.

Critical Events Team Training (CETT): CETT focuses on drills for emergency situations and improving communication and systems. STAT C-Sections, neonatal resuscitation, difficult maternal airway and shoulder dystocia drills were performed at the pilot sites.

Measures of Success

The University of Texas at Austin developed a validated survey instrument, the Safety Attitudes Questionnaire (SAQ) that was used to assess changes in the safety culture. The SAQ is an effective short-term measure of the change in employee’s perceptions. The Safety Attitudes Questionnaire (SAQ) was administered at all 11 NCAL Medical Centers offering perinatal services in 2002 and 2003. Respondents included everyone involved in perinatal care. Response rate exceeded 74% for both surveys. The results showed statistically significant improvement in all 11 perinatal sites and even

more dramatic improvement in the four pilot sites over the seven non-pilot sites. This improvement occurred in five of six dimensions measured: Perceptions of Management (+11%), Working Conditions (+8%), Teamwork Climate (+5%), Safety Climate (+12%) and Job Satisfaction (+19%).

Practice Transfer

Four new medical centers in Northern California are currently involved in the PPS Project. The remaining medical centers will be incorporated in 2005. There is a commitment from nine sites in Kaiser Permanente’s Southern California Region as well as numerous sites in the Regions outside California.

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PRETERM BIRTHS AND PREGESTERONE THERAPY

Researchers in the February issue of Obstetrics & Gynecology report that extended use of 17 alphahydroxyprogesterone (17P) could prevent thousands of preterm births annually.

Dr. Joann R. Petrini of the March of Dimes says “we are optimistic about the potential of 17P for those women who are eligible, as preventing an estimated 10,000 preterm births is very significant”. Dr. Patrini and colleagues note that an earlier multicenter randomized controlled trial conducted by the National Institute of Child Health and Human Development showed that in women with a history of spontaneous preterm birth, weekly injections of 17P could reduce these events by a significant 33%.

To estimate the national impact of such an approach, the researchers examined national and state data for 2002. During that year, about 30,000 recurrent preterm births occurred in women who would have benefited from 17P therapy. Had this therapy been used, about 10,000 premature births would have been prevented. This would have amounted to a 2% reduction in the US preterm birth rate. The investigators stated that reductions would be higher in targeted populations of eligible women. Given these findings, Dr. Petrini concluded. “we are hopeful that research on 17P will continue to explore its utility for women with additional risk factors.”

Preterm Birth Prevention

March of Dimes has developed Preterm Birth Prevention materials that are available at www.marchofdimes.com. Its continuing education module for nurses: Preterm Labor; Prevention and Nursing Management, presents the pathophysiology of preterm labor, diagnostic criteria, and prevention strategies. It discusses nursing management of women hospitalized or being treated in the home with preterm labor, and women facing inevitable preterm delivery. The module is available on-line for \$20. Nurses who successfully pass the post test earn 4.68 CEUs. The online version contains all the material from the print module plus video clips and interactive case studies.

Public Policy in California

CALIFORNIA STATE BUDGET 2005-'06

The Governor's 2005-06 budget proposal addresses the 2005-06 budget shortfall primarily through program savings in K-12 education, health & social services, transportation, and employee compensation. It assumes some additional revenues from expanded tax auditing, but does not propose new tax increases.

Prenatal Care for Low Income Women: Eligibility requirements for federal children's health insurance (FHP - Healthy Families Program) were changed in 2002 to include "unborn children and their mothers". Seven states have successfully enrolled unborn infants into the federal program. California would receive an additional \$147million in federal funding for prenatal care through implementation of this program.

Medi-Cal Redesign: The administration is proposing a series of changes to the structure of the Medi-Cal Program. These include: 1) expansion of managed care in the form of county organized health systems into areas where managed care has not yet been established 2) inclusion of the aged, blind and disabled into mandatory managed care, 3) new premiums (generally ranging from \$4 to \$10 per month per person) for beneficiaries with incomes above the FPL 4) cap on adult dental services 5) restructuring of hospital financing 6) expedited processing of children's applications for health coverage through the so-called "single point of entry" and 7) stronger state monitoring of county administration of program eligibility.

Proposition 99 Shifts: The budget reflects a number of significant shifts in the use of Proposition 99 tobacco tax revenues to support state mental hospitals, community clinics, cancer screening, and Medi-Cal nonemergency services. Support for the Access for Infants and Mothers Program would be shifted away from Proposition 99 toward support from the General Fund and federal funds.

Other Budget Changes: \$15 million would be expended for a fee-supported program to expand screening of newborns for various genetic diseases.

Analysis of the FY05-06 Budget Proposal released on Feb 23, 2005, is available at www.lao.ca.gov

2005-2006 CALIFORNIA LEGISLATION

AB 813 Fetal ultrasound: This bill would instead require that fetal ultrasound be performed only for a medical purpose, in a medical setting, by a sonographer or other appropriately qualified practitioner. The bill would prohibit the offering or performance of fetal ultrasound or a similar procedure for keepsake or entertainment purposes.

AB 1278 Vital records: This bill would revise the medical and social information to be included on a certificate of live birth relating to prenatal activities and procedures and principal sources of payment for prenatal care and delivery. This bill would require the State Registrar to collect additional

LEGISLATION CON'T

information. This bill would provide that the 2nd section of the certificate of fetal death relating to medical and health data be confidential.

AB 1418 Health care coverage: maternity benefits: This bill would, except as specified, require a health care service plan or health insurance policy that does not include maternity benefits to provide notice, at the time of solicitation, that the plan or policy does not cover or provide those benefits.

SB 100 Medi-Cal reimbursement: Existing law provides for the Medi-Cal program, which is administered by the State Department of Health Services and under which qualified low-income persons receive health care services. This bill would state the intent of the Legislature to increase Medi-Cal reimbursement to a more appropriate rate, particularly with respect to emergency and trauma care.

SB 869

This bill would appropriate \$3,500,000 from the General Fund to establish and implement a program to make grants to eligible participating counties for the provision of voluntary visiting nursing services to first time low-income mothers.

CPQCC DATA TRAINING

The California Perinatal Quality Care Collaborative (CPQCC) 2005 dataset has changed dramatically from the 2004 dataset. All current CPQCC data contacts and those considering CPQCC membership are strongly encourage to attend one of the 2005 data trainings. No additional training will be offered this year.

- ✿ March 21, 2005, 9:00am - 2:00pm
Cedars-Sinai Medical Center
8700 Beverly Blvd., Los Angeles
- ✿ March 28, 2005, 9:00am - 2:00pm
San Diego & Imperial Regional Perinatal System
9170 Camino Santa Fe, San Diego
- ✿ April 8, 2005, 10:00am - 3:00pm
Sutter Cancer Center
2800 L. Street, Sacramento
- ✿ April 11, 2005 9:00am - 2:00pm
Long Beach Memorial Hospital
2801 Atlantic Avenue, Long Beach
- ✿ April 18, 2005, 9:00am - 3:00pm
Loma Linda University
11234 Anderson Street, San Bernardino
- ✿ April 29, 2005, 10:00am - 3:00pm
CPQCC Data Center
1111 Broadway Street, 19th Floor, Oakland

To register for any of these Data Trainings, please contact Lani Lucente at the CPQCC Corporate Office at (650) 723-5763 or Barbara Murphy at (650) 723-4822. www.cpqcc.org